

Masatoshi KANAYA et al.

Docket No. 020287

REMARKS

The above amendment is submitted to place the claims insubstantially the same condition as to the claims which have been amended under Article 34 in the international application. An English translation of the annexes of the PCT international preliminary examination report is enclosed. Early and favorable action is awaited.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

In the event there are any additional fees required, please charge our Deposit Account No. 01-2340.

Respectfully submitted,

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Enclosures: English translation of Annexes

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

Claims 1, 2, 5 and 6 have been amended as follows:

1. (Amended) A method of detecting and removing a stripped shellfish carrying therewith unstripped residual shell [left on shellfish], which is characterized by the steps of: irradiating a light of specific wave-range onto said stripped shellfish after finishing a shell-stripping work thereof, and] to generate fluorescent light from said stripped shellfish, and determining if there is residual shell left on said stripped shellfish on the basis of information on the intensity of the fluorescent light [emitted] generated from [the] said stripped shellfish, [determining if there is residual shell on the stripped shellfish and subsequently removing] and removing said stripped shellfish if there is any residual shell.

2. (Amended) A method of detecting and removing a stripped shellfish carrying therewith unstripped residual shell [left on shellfish], which is characterized by the steps of: irradiating a light of specific wave-range onto said stripped shellfish after finishing [the] a shell-stripping work thereof to generate fluorescent light from said stripped shellfish, taking an image of [the] said stripped shellfish with a CCD camera, and determining if there is residual shell left on the stripped shellfish on the basis of information to be derived from the image taken up of shellfish on the intensity of the fluorescent light [emitted] generated from [the fetched image of] said stripped shellfish, [determining

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if there is residual shell on the stripped shellfish and subsequently] and removing said stripped shellfish if there is any residual shell.

5. (Amended) An apparatus for detecting and removing a stripped shellfish carrying there with unstripped residual shell [left on shellfish], said apparatus comprising; a means for irradiating a light of specific wave-range onto said stripped shellfish after finishing [the] a shell-stripping work thereof, [detection means for detecting a] thereby enabling fluorescent light [emitted] to be generated from said stripped shellfish; [a] detection means for detecting the fluorescent light generated from said stripped shellfish; means for determining if there is [left a] residual shell of the shellfish left on [the] said stripped shellfish on the basis of information on the intensity of fluorescent light obtained from said detection means; and means for removing said stripped shellfish if there is any residual shell on the basis of information obtained from said determining means.

6. (Amended) An apparatus for detecting and removing a stripped shellfish carrying therewith unstripped residual shell [left on shellfish], said apparatus comprising; [a] means for irradiating a light of specific wave-range onto said stripped shellfish after finishing [the] a shell-stripping work thereof, thereby enabling fluorescent light to be generated from said stripped shellfish; a CCD camera disposed to face said stripped shellfish; [a] means for determining if there is residual shell left on said stripped shellfish on the basis of information on the intensity of fluorescent light that can be obtained from the image taken up by said CCD camera; and means for removing said stripped

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shellfish if there is any residual shell on the basis of information obtained from said determining means.

The following is an English translation of AMENDMENT, which is submitted to JPO in May 10, 2001, in response to written opinion made out by international preliminary examining authority.

## **AMENDMENT**

To: Commissioner of the Patent Office

### **1. Identification of the International Application**

PCT/JP00/06095

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**4. Date of Invitation** March 13, 2001

**5. Item to be Amended** Claims

**6. Contents of Amendment**

## CLAIMS:

1. (Amended) A method of detecting and removing a stripped shellfish carrying therewith unstripped residual shell, which is characterized by the steps of: irradiating a light of specific wave-range onto said stripped shellfish after finishing a shell-stripping work thereof to generate fluorescent light from said stripped shellfish, and determining if there is residual shell left on said stripped shellfish on the basis of information on the intensity of the fluorescent light generated from said stripped shellfish, and removing said stripped shellfish if there is any residual shell.
2. (Amended) A method of detecting and removing a stripped shellfish carrying therewith unstripped residual shell, which is characterized by the steps of: irradiating a light of specific wave-range onto said stripped shellfish after finishing a shell-stripping work thereof to generate fluorescent light from said stripped shellfish, taking an image of said stripped shellfish with a CCD camera, and determining if there is residual shell left on the stripped shellfish on the basis of information to be derived from the image taken up of shellfish on the intensity of the fluorescent light generated from said stripped shellfish, and removing said stripped shellfish if there is any residual shell.
3. The method according to claim 1 or 2, wherein said shellfish is "shrimp", and said wave-range of the light is not more than 400nm, more preferably around 250nm.
4. The method according to claim 1 or 2, wherein said shellfish is "crab", and said wave-range of the light is not more than 400nm.
5. (Amended) An apparatus for detecting and removing a stripped shellfish carrying there with unstripped residual shell, said apparatus comprising; means for irradiating a light of specific wave-range onto said stripped shellfish after finishing a shell-stripping work thereof, thereby enabling fluorescent light to be generated from said stripped shellfish; detection means for detecting the fluorescent light generated from said stripped shellfish; means for determining if there is residual shell of the shellfish left on said stripped shellfish on the basis of information on the intensity of fluorescent light obtained from said detection means; and means for removing said stripped shellfish if there is any residual shell on the basis of information obtained

from said determining means.

6. (Amended) An apparatus for detecting and removing a stripped shellfish carrying therewith unstripped residual shell, said apparatus comprising; means for irradiating a light of specific wave-range onto said stripped shellfish after finishing a shell-stripping work thereof, thereby enabling fluorescent light to be generated from said stripped shellfish; a CCD camera disposed to face said stripped shellfish; means for determining if there is residual shell left on said stripped shellfish on the basis of information on the intensity of fluorescent light that can be obtained from the image taken up by said CCD camera; and means for removing said stripped shellfish if there is any residual shell on the basis of information obtained from said determining means.

7. The apparatus according to claim 5 or 6, wherein said shellfish is "shrimp", and said the wave-range of the light is not more than 400nm, more preferably around 250nm.

8. The apparatus according to claim 5 or 6, wherein said shellfish is "crab", and said the wave-range of the light is not more than 400nm.

#### 6. List of Attached Documents

(1) Replaced pages of claims (Page 8 and 8/1)